CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory
An ISO 9001:2008 Certified Company
NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/Consultants/312/2017-18

Dated: 29.03.2018

To,
Executive Engineer,
Dasarahalli Division,
BBMP, Bangalore.

Sir,

Sub: Consultancy Services for the work of Improvements to drain at Havnoor layout at Bagalagunte in Ward No.14 BBMP, Bangalore.

Ref:
1. Work Order No.: EE/DD/WO/205/2017-18 Dated: 23.01.2018
2. Job Code: 014-18-000021

We are herewith forwarding to Mr. Shivakumar B. H, First and Final bill duly verified and certified that the work is satisfactory and for a Gross Value of Rs. 50,20,907.00/- (Rs. Fifty lakhs Twenty Thousand Nine Hundred and Seven Only) for further needful.

Thanking you,

Yours faithfully,
For Civil-Tech Consultants and Engineers

Technical Manager

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ದಾಸರಹಳ್ಳಿ ವಲಯ-ವಿಭಾಗ
ಬಾಗಲಗುಂಟೆ, ಬಿಬಿಎಂಪಿ
ಬೆಂಗಳೂರು

#23/14, 7th Cross, 3rd Stage, 4th Block, Shakthi Ganapathi Nagara, Basaveshwaranagar, Bangalore-79.
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T-2377

Job No.: CTCE/BBMP/BHSK/W.No.14/CSR-01/556/CEMENT/2017-18 Date: 31.01.2018

TEST REPORT ON CEMENT

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. B.H. Shivakumar,** No.1304, 12th Cross, 7th Main, WOC Road 2nd Stage, Bangalore – 560 086.
* Name of Work	:	Improvements to drain at Havnoor Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/205/2017-18 Dated: 29.01.2018
* Sample ID	:	Cement
Sample Received on	:	29.01.2018
Period of Testing	:	29.01.2018 to 31.01.2018

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988 (RA-2014)	29.50 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	180 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	460 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988 (RA-2014)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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Note:

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⇒ Any Query regarding the report must be reported within 30 days from the date of testing.

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VIDYARANI P.K.
Technical Manager

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Job No.: CTCE/BBMP/BHSK/W.No.14/CSR-01/556/SAND-Gradation/2017-18 31.01.2018

TEST REPORT ON SIEVE ANALYSIS OF FINE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. B.H. Shivakumar,** No.1304, 12th Cross, 7th Main, WOC Road 2nd Stage, Bangalore – 560 086.
* Name of Work	:	Improvements to drain at Havnoor Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/205/2017-18 Dated: 29.01.2018
* Sample ID	:	Fine Aggregates (Manufactured Sand)
Technical Reference	:	IS : 2386 (Part 1) - 1963 (RA-2011)
Sample Received On	:	29.01.2018
Date of Testing	:	31.01.2018

Total Wt. of Aggregates in gms = **1000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	97.50	90-100	90-100	90-100	95-100
2.36	78.50	60-95	75-100	85-100	95-100
1.18	58.50	30-70	55-90	75-100	90-100
600 Micron	38.50	15-34	35-59	60-79	80-100
300 Micron	20.50	5-20	8-30	12-40	15-50
150 Micron	4.00	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-II specific limits.

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Note 1 :

For crushed stone sands, the permissible limit on 150-micron IS Sieve is increased to 20 percent. This does not affect the 5 percent allowance permitted in 4.3 of IS 383 applying to other sieve sizes.

Note 2 :

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Technical Manager

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Ref No.: CTCE/BBMP/BHSE/W.No.14/CSR 01/556/AGG/GR/2017-18

31.01.2018

TEST REPORT ON SIEVE ANALYSIS OF COARSE AGGREGATES

* Customer	:	Asst. Executive Engineer, T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	Mr. B.H. Shivakumar, No.1304, 12th Cross, 7th Main, WOC Road 2nd Stage, Bangalore – 560 086.
* Name of Work	:	Improvements to drain at Havnoor Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/205/2017-18 Dated: 29.01.2018
* Sample ID	:	Coarse Aggregates (40mm)
Technical Reference	:	IS : 2386 (Part 1) -1963 (RA-2011)
Sample Received on	:	29.01.2018
Date of Testing	:	31.01.2018

Total Wt. of Aggregates in gms= **5000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.56	95-100	85-100
20	38.44	30-70	0-20
10	12.40	10-35	0-5
4.75	1.88	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under graded specific limits.

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ಬೃಹತ್ ಬೆಂಗಳೂರು ಪಾಲಿಕೆ
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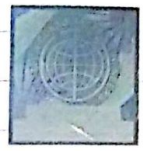
Job No.: CTCE/BBMP/BHSK/W.No.14/Steel/2017-18 01.02.2018

TEST REPORT ON REINFORCEMENT STEEL

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. B.H. Shivakumar,** No.1304, 12th Cross, 7th Main, WOC Road 2nd Stage, Bangalore – 560 086.
* Name of work	:	Improvements to drain at Havnoor Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/205/2017-18 Dated: 29.01.2018
* Samples ID	:	12 mm Bar
Technical Reference	:	IS: 1786-2008
Date of Testing	:	01.02.2018



Sl No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm2	Tensile strength (Ultimate stress) N/mm2	Elongation percent gauge length		
1	12	0.89	520	562	13.35	O.K	O.K

*Information is furnished by the Customer/Representative.

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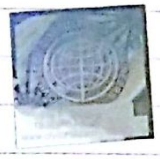
Lab No.: CTCE/BBMP/BHSK/W.No.14/CSR-01/556/Cube/2017-18

03.03.2018

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. B.H. Shivakumar,** No.1304, 12th Cross, 7th Main, WOC Road 2nd Stage, Bangalore – 560 086.
* Name of the work	:	Improvements to drain at Havnoor Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/205/2017-18 Dated: 29.01.2018
* Sample ID	:	RCC Drain Bed Slab Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	03.03.2018



Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	03.02.2018	03.03.2018	8.128	482.5	21.44
2	03.02.2018	03.03.2018	8.296	506.9	22.53
3	03.02.2018	03.03.2018	8.385	512.3	22.77

*Information is furnished by the Customer/Representative.

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Lab No.: CTCE/BBMP/BHSK/W.No.14/CSR-01/556/Cube/2017-18

03.03.2018

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. B.H. Shivakumar,** No.1304, 12th Cross, 7th Main, WOC Road 2nd Stage, Bangalore – 560 086.
* Name of the work	:	Improvements to drain at Havnoor Layout at Bagalagunte in Ward No.14, BBMP, Bangalore.
* Reference	:	BBMP/DZ./AEE/TDSD/PR/205/2017-18 Dated: 29.01.2018
* Sample ID	:	RCC Drain Bed Slab Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	03.03.2018

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	03.02.2018	03.03.2018	8.255	479.3	21.30
2	03.02.2018	03.03.2018	8.392	516.3	22.95
3	03.02.2018	03.03.2018	8.405	523.2	23.25

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